

## STUDY OF SKIN IN DIFFERENT PREDOMINANT DEHA PRAKRITI WITH THE HELP OF SEBUMETER

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### ABSTRACT

*Prakriti* is unique concept *Prakriti* remains same throughout life. It is mentioned in Ayurvedic literatures that different *Deha Prakriti* will have different characteristics. The predominance of *Dosha Prakriti* shows different skin characteristics of *Ayurveda*, according to which every human is different from other. Present study is carried out with an objective to study the sebum production of skin according to predominant *Deha Prakriti* with the help of sebumeter (an instrument use to measure sebum production). The sebaceous glands are present everywhere on the skin surface. They produce complex mixture of lipids per day. The sebum measurement on the skin is based on the world wide approved Sebumeter. Sebumeter directly measures the sebum secretion on skin. Total 280 female volunteers were screened from various colleges of Nagpur. After that they are grouped as *Vata*, *Pitta* and *Kapha* predominant *Prakriti* containing 50 volunteers in each group. In this study it was found that *Vata* predominant *Prakriti* volunteers were having mean sebum production of sebum 59.44. *Pitta* predominant *Prakriti* volunteers have mean sebum production of 122.7 and *Kapha* predominant *Prakriti* have 165.75. After statistical analysis with the help of ANOVA, the study shows extremely significant results.

**Key words:** *Prakriti*, Sebum, Sebumeter, *Vata*, *Pitta*, *Kapha*.

### INTRODUCTION

According to *Ayurveda* every individual is different and hence should be considered as a different entity called *Prakriti*. *Prakriti* means *Swabhav* or nature of an individual<sup>1</sup>. According to *Vagbhata* the *Prakriti* remains unchanged throughout the life prior to death. *Ayurveda* categorizes human population in to sub population such as *Vata Prakriti*, *Pitta Prakriti* and *Kapha Prakriti* or their combination on the basis of anatomical, physiological, and psychological characteristics with completely avoidance of racial,

ethical and geographical consideration. *Ayurveda* has designed *Prakriti* such as *Vata*, *Pitta* and *Kapha* or combination of either two or three of them<sup>2</sup>. In Ayurvedic literatures it has mentioned that different *Prakriti* will have different characteristics. They have mentioned special characteristics of skin. Due to dominance of the *Vata Dosha* *Vata Prakriti* person shows lusterless skin. Due to *Parusha Guna* hairs, skin, nails are rough in texture, being *Vishada guna* body develops cracks due to dryness, skin shows predominant network of veins<sup>3</sup>. *Pitta*

*Prakriti* person has fair body colour; they have reddish black spots on their body. They have moles and have a tendency for wrinkles & the hairs to turn gray at an early age. Generally the hairs are soft, feeble & are golden coloured<sup>4</sup>. *Pitta Prakriti* person's body is yellowish & his nails, eyes, lips, palms & soles are copper coloured<sup>5</sup>. The complexion of *Kapha Prakriti* person resemble either the colour of a blade glass, blue lotus, polished sword, *aardra arista* or that of the stem of the *sara* grass<sup>6</sup>. Being *Snigdha*, *Kapha Prakriti* has oily skin. Being *Mrudu* they are beautiful, tender & of fair coloured<sup>4</sup>. The sebaceous glands are present all over the skin surface. It produces 1 – 5grms of complex mixture of lipids per day. These lipids together with the lipids of stratum corneum and the remains of sweat form the sebum on the skin surface. Sebum is a complex and variable mixture of lipids like glyceride, free fatty acids, wax esters, squalene, cholesterol esters, and cholesterol. Most of sebaceous glands can be found on the face, the scalp, and upper part of back and chest. The surface area of sebum on scalp and hair diffuse depending on race, age, sex, as well as on the genetic factors, eating habits and external factors like stress and climate<sup>8</sup>. Facial skin is usually classified as dry, and oily. However skin type does not match the amount of sebum secreted. Sebum affects the permeability of skin and absorption of water, protects against bacteria, fungi, limits evaporation, affects permeation, pharmaceutical preparation, other active and non active substances. Newborn children produce little sebum and eccrine sweat. Sebum production typically does not begin until the hormonal changes of puberty occur. Puberty bring full func-

tioning of sebaceous apocrine & eccrine glands. In women sebum production is decreased after menopause. Sebum production is controlled by the level of circulating hormones and varies according to the anatomical distributions of sebaceous gland. The skin has to be soft, smooth and supple. This is achieved by the thin film of hydro lipid on the stratum corneum. It consists mainly of sebum which is excreted by the sebaceous glands. It comes up to the skin surface beside the hairs and fills the space between the cells. The sebum measurement on the skin as well as on the hair and scalp is based on the world wide acknowledged sebumeter method. It is a direct measurement of the sebum secretion on the skin, hair, and scalp. The measuring principle is the photometric method. This method is indifferent to moisture. For the determination of sebum the measuring head of the cassette is inserted into the aperture of the device where a photocell measures transparency. The light transmission represents the sebum content on the surface of measuring area.

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## MATERIAL AND METHODS

This study is carried out from September 2012 to January 2013 with the objective to study the sebum production of skin according to predominant *Deha Prakriti* with the help of sebumeter. The volunteers were selected from various arts, sciences; management, commerce, engineering, & Ayurved colleges in the Nagpur city of Maharashtra. Total 280 female volunteers were initially screened with the help of a special screening proforma containing a unique screening number, demographic data, and inclusion & exclusion criteria.

### Inclusion criteria

- Healthy, unmarried female volunteers

- Age: - 21 – 30 yrs
- Volunteer residing in particular area since last six months
- Volunteer residing within a perimeter of 50 kms from study site
- Volunteer with middle socioeconomic class

#### **Exclusion criteria**

- Pregnant & Lactating women
- Volunteers participated in any other clinical trial 4 weeks prior to enrolment into this study
- Volunteer with history of Anemia
- Volunteer with history of any allergic disorder
- Volunteer with family H/O Congenital or hereditary disorders
- Volunteer with history of travelling in another environment in last 4 weeks
- Volunteers with premature sign of skin aging
- Volunteers with addictions like smoking & chronic Alcohol intake

The volunteers fulfilling the eligibility criteria were enrolled for further study. After the enrollment each volunteer was given a separate ID form to hide their identity in questionnaire for the ethical issue. Each volunteer was given questionnaire which contain background information like age, education, religion, socio-economic status, dietary habits, height, weight & questions related to *Prakriti Parikshana* was given to complete. All the volunteers were given 30 minutes to fill the proforma. All the volunteers were categorized into three groups i.e. *Vata*, *Pitta*, and *Kapha Prakriti* according to their predominant *Prakriti*. 50 volunteers from each group were randomly selected for further

study. Enrolled participant was advised to avoid use of any facial cosmetic after bath on the day of sebum measurement. Sebumeter is used for measuring sebum production on facial skin especially on forehead. The measuring principle is based on the photometric method. Probe of sebumeter is kept on forehead of enrolled participant. Measured reading was displayed on the screen of sebumeter and data is classified accordingly.

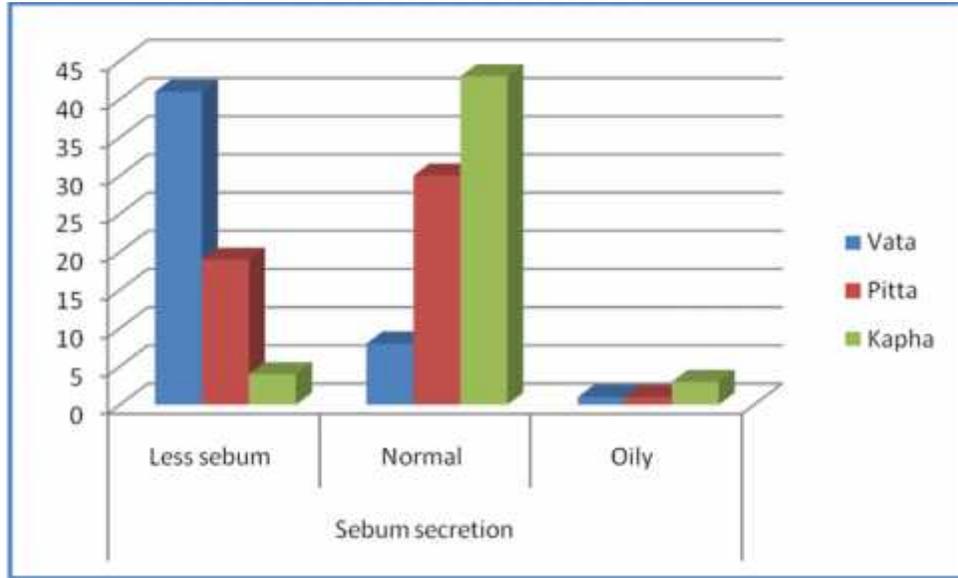
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#### **RESULTS**

In this proposed study following results were found, maximum volunteers were having age group between 21 – 24 years. Around 97 volunteers were graduates from different institutes. The maximum volunteers that is 112 were having normal BMI while 22 were underweight and remaining 13 were overweight and 3 were obese. 61 volunteers were having *Tikshnagni* while 51 were having *Vishmagni* and 37 were *Mandagni*. The *Kostha* wise classification shows 66 volunteers were having *Mrudu kostha* and 33 were having *Madhyam kostha*. Among total volunteers maximum 114 volunteers were using cosmetics on routine basis. In this study, among total 150 volunteers 41 *Vata* predominant volunteers has less sebum production, 16 volunteers has normal sebum production while only 1 volunteer has oily skin. 30 *Pitta* Predominant *Prakriti* volunteers have normal sebum production, 19 volunteers have less sebum production while only 1 volunteer has oily skin. 43 *Kapha* predominant volunteers has normal sebum production, 4 volunteers has less sebum production and 3 volunteers has oily skin. (Table no. 1).

**Table no.1: Sebum secretion according to different Deha Prakriti**

S.no.	Deha Prakriti	Sebum secretion			
		Less sebum	Normal	Oily	Total
1	Vata	41	08	01	50
2	Pitta	19	30	01	50
3	Kapha	04	43	03	50



**Table no.2: Statistical analysis of Data**

S.no.	Prakriti	Sample size	Mean	Standard deviation	Standard error of mean
1	Vata	50	59.44	53.30	7.53
2	Pitta	50	122.7	43.90	6.20
3	Kapha	50	165.75	44.08	6.23

## DISCUSSION

In present study it was found that 82% Vata predominant Prakriti volunteers were having less sebum production. This was due to Ruksha Guna of Vata Prakriti. 60% Pitta predominant Prakriti volunteers were having normal sebum production like that 86% Kapha predominant Prakriti volunteers were having normal sebum production. This was due to Snigha Guna of both Prakriti

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